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**Stylized Facts and Policy Alternatives**

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**Macroeconomic Policy**

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## **Chapter Nine**

### **Stylized Facts and Policy Alternatives**

The main objective of this book has been to explain why so many parts of the developing world have failed to generate stable rates of growth in per capita incomes, and to offer policy alternatives for them to correct this outcome. The failure of growth was particularly widespread during the quarter of century or so after a series of adverse shocks beginning in the late 1970s. This period also coincided with a major shift in development policies toward an emphasis on market liberalization and a retreat from state intervention. History has not been kind to the mainstream interpretation of economic development and the policies associated with it.

We set ourselves the task of analyzing in Chapters 2 to 5 the growth patterns of developing countries over the past several decades, based on a framework that emphasizes the role of economic structures set out in Chapter 1. On the basis of this evidence, we provided in Chapters 6 to 8 an alternative way to understanding financial structures, the macroeconomic dynamics of developing countries, and the challenges associated with the transformation of their production structures.

This chapter presents eight main “stylized facts” that can be drawn from our empirical analysis and, on the basis of this evidence, summarizes and in some cases expands our major policy conclusions. We also offer a contrast

between the views that we develop in this book and mainstream analyses of growth.

### ***Stylized Facts***

The first stylized fact that comes out from our analysis is that *convergence in income levels among countries is the exception rather than the rule*. This conclusion contrasts with the prediction of convergence – either in absolute or conditional form — that characterizes most orthodox models of economic growth. Indeed, divergent economic performance has been the major characteristic of the evolution of the income per capita between industrial and developing countries over the past two centuries. This phenomenon came back with force in the late 1970s, giving rise to a “great divergence” in the incomes of industrial and developing countries that characterized the last two decades of the twentieth century. This was accompanied by very uneven growth among different developing countries, with the success stories of East and South Asia coinciding with the poor performance of most of the developing world.

The late twentieth century divergence was associated with clustering of growth collapses (reduction in income per capita over several years), in sharp contrast to the clustering of success stories during both the post-war “golden age” and the recent 2003-2007 boom. The clustering in time of both successes and collapses underscores a second stylized fact: *international factors play a crucial role in the overall growth dynamics of the developing world*. Again, this finding contrasts with the emphasis on domestic policies and institutions as the

basic determinant of economic growth that characterizes mainstream analysis and, in particular, its numerous massive cross country econometric exercises (in which, with a few exceptions, international conditions are entirely absent from the analysis).<sup>1</sup>

The high frequency of developing country growth collapses during the lost decade of the 1980s was associated with the unusually large and in a sense unprecedented interest rates and terms of trade shocks that they faced, the effects of which lasted until the early 2000s. The recent boom must be understood, in turn, as the result of the end of the long-term effects of these adverse shocks, together with the positive linkages generated by the new engines of the world economy, particularly China. In the case of several low-income countries, debt relief and increased aid also played a role. The rapid spread of the recent world financial crisis to the developing world in the second half of 2008 serves to reinforce this dependence of growth performance on international factors.

The painful adjustment and frustrating growth during the late twentieth century were accompanied with the change in the overall policy environment towards the “Washington consensus” emphasis on market liberalization. Fast-growing regions were less zealous about applying the liberalization philosophy, and performed better. Indeed, the clear success cases of the late twentieth century – various Tigers, China, Vietnam among other countries in Southeast Asia, and more recently India – are hardly paragons of neo-liberalism. They

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<sup>1</sup> See, for example, the well-known text of Barro and Sala-i-Martin (2003), where both the theoretical and the empirical literatures are summarized.

succeeded not because they followed but rather because they deviated from widespread market liberalization of their economies, maintaining, in particular, crucial instruments of macroeconomic and industrial policies. Some Central and Eastern European policy-makers think of themselves as neo-liberal but many vestiges of the old order, in the form of an industrial base and high levels of human capital, remain; their integration with the European Union was also a basic ingredient of their recovery from the transition crisis.

When looking at the domestic features of successful vs. slow-growing economies in the developing world, a third stylized fact emerges, perhaps the most central to the analysis of this book: *structure matters*. When making this assertion we rely on a large structuralist literature that, in different variants, goes back to Hollis Chenery and Raúl Prebisch, the two great intellectuals to whom this book is dedicated, as well as Karl Marx, Joseph Schumpeter, and Albert Hirschman, to mention just a few – authors, by the way, of quite different ideological inclinations.

There is, again, a sharp contrast between this framework and most mainstream analyses, where production and trade structures are viewed as a passive outcome rather than an essential determinant of economic growth. There are exceptions to this rule, including leading developing economists critical of the Washington consensus (particularly Rodrik, 2007), the neo-Schumpeterian growth literature (see in particular Aghion and Howitt, 1998), and trade economists who have analyzed the implications of specialization patterns for growth, and emphasize the diverse technological learning paths that characterize

different economic activities (see, for example, Krugman, 1987; Grossman and Helpman, 1995). Our views share several of the analytical conclusions of these authors.

A large part of our analysis has precisely focused on figuring out just how and why structure matters. In the empirical decompositions of change in production structures, we saw that fast growing economies are characterized by strong output and labor share shifts accompanied by sustained productivity growth, with strong reallocation effects in some cases. In contrast, in the less successful regions there was either scant structural change or deindustrialization combined with an increase in the share of informal, low-productivity services.

The analysis of trade structures likewise revealed that developing countries specialized in exports with high-technology contents tend to do better, and those specialized in natural resourced-based exports tend to perform poorly. A similar story applies to trade in services. Successful economies, such as India, have specialized in dynamic services that contribute significantly to overall productivity growth and high skilled employment. In several other regions, tourism represented a dynamic service activity but lacked these productivity links.

This analysis carries an implicit message: intelligent sector-level policies can facilitate the development process. To an extent, structural change can be planned or, at least, induced.

This analysis sheds light on the determinants of productivity growth. Stated goals of the liberalization package were to enhance labor productivity and employment growth. Outside the consistently expanding economies, this did not

happen. Productivity movements across sectors differed in detail in the slow-growing and stagnant regions but, in general, did not add up to very much. Also, overall, liberalization did not help create jobs – industrial jobs in particular. Rather, it increased underemployment, which was absorbed most frequently in informal service activities and, in a few cases, in agriculture. The associated fall in productivity, which is quite common in the service sector in low-growth economies, indicates that poor productivity performance was more an effect than a cause of poor GDP growth.

This leads to a fourth stylized fact: *productivity growth is as much a result as a cause of economic growth, largely because demand matters not only for short but also for long-term growth.* This point is generally missed in most mainstream analyses of growth, which are essentially supply driven. The reason is that they assume full employment of available resources and the lack of any Verdoorn-Kaldor effects (or Arrow's "learning by doing") in which production itself leads to productivity improvement.

The first of these factors is important, because the existence of a "reserve army or the *underemployed*" is a crucial structural feature of developing countries. Successful long-term economic performance is associated with the gradual absorption of the reserve army into the modern sector of the economy, whereas poor growth performance leads to the engrossing of the reserve army. The first linkage leads to an increase in overall productivity; the second to a reduction. Trying to understand these phenomena as some sort of "productivity

shocks” simply misses the point emphasized above: that productivity is both caused by and causes GDP performance.

The interaction of underemployment and Kaldor-Verdoorn effects is crucial to understand the growth dynamics in developing countries. Even in purely supply-driven models, they give rise to the results predicted by classical development economists: possible low-growth traps and rapid growth as labor is dynamically allocated towards the modern sector (Ros, 2000). More importantly for the analysis in this book, they generate a possible interaction between GDP and productivity growth in which growth is *demand-led*. The relevant demand factor may be investment demand, as in the Keynesian growth models associated with Nicholas Kaldor and Joan Robinson. In developing countries, the most relevant factor may be an externally-generated demand boom, in which favorable export and/or external financing conditions play the key role, amplified by their induced effects on domestic investment and consumption.

At a sectoral level, the dynamic economies of scale generated by the Kaldor-Verdoorn effects and by learning by doing are important in another sense: because they determine links between past and future patterns of specialization. Whether an economy is able to move towards higher value added economic activities depends on the accumulation of technological capabilities, largely as a result of previous production experience. So, the capacity of the East Asian economies rapidly to transform their specialization patterns has been associated to their capacity to accumulate technological capabilities. But also, as we saw, the productive capacities built into Central and Eastern Europe as well as in the



semi-industrialized economies during the era of more active state intervention gave them the possibility of diversifying their exports into mid-tech manufactures in the more open domestic and global environment of the late twentieth and early twenty-first centuries.

According to our empirical analysis, supply factors do not have the explanatory role assumed in the mainstream literature and, therefore, do not seem to have played the leading role in the success stories. There is a clear association between capital stock and output growth rates across all regions, but here the supply-side interpretation is not compelling. The association can be better explained by rapid capital stock growth contributing to labor productivity growth and driving output growth from the side of demand with savings adjusting endogenously, rather than by higher savings leading to more capital which feeds into output via some sort of aggregate production function.

In turn, the other supply links generated by either human capital accumulation and opening economies to foreign direct investment are at best weak. Better nutrition, education and health have an intrinsic value: they are human rights and merit goods. They may also play a more indirect role, as a “framework condition” for successful growth, but they do not seem to be a determinant of the varying performance of different developing countries or of changes in their momentum of economic growth through time (Ocampo, 2005).

A supply-side interpretation is more appropriate for the changes in (fossil fuel) energy/labor ratios. The key policy question that arises is whether in the near future rich country energy/labor ratios can be reduced (or energy

productivity increased relative to labor productivity) substantially by technological innovation and social rearrangements. If such innovations work out, then perhaps they can be passed to developing economies before the momentum of their population growth overwhelms all possibilities for combating global warming.

If there is a supply factor that plays a *central* role in developing country macroeconomic dynamics, it is foreign exchange availability rather than production capacity. This leads to a fifth stylized fact: *external shocks, both positive and negative, crucially influence the macroeconomic dynamics of developing countries*. Although related to the second stylized fact mentioned above, this fact focuses on short-term GDP variations rather than on long-term growth dynamics. Counter-cyclical macroeconomic policies are key to coping with massive external shocks, not only to smooth the domestic impact of external demand fluctuations but also to prevent important macroeconomic prices – the exchange and interest rates, in particular — from deviating from their developmental objectives.

Avoiding exchange rate overvaluation during booms is crucial to support the structural transformation of the economies towards new export and import-competing sectors with higher technological content, and for export and production diversification in general. In turn, maintaining growth during externally-induced crises requires both avoiding high interest rates and managing the foreign exchange constraint (the “external gap”) faced by developing countries during these periods. Stability in both exchange and interest rates is also fundamental to facilitate rapid capital accumulation.

Regrettably, pro-cyclical macroeconomic policies have become the rule rather than the exception in the developing world. Pro-cyclical policy responses multiply the impacts of external shocks. The net result has been exchange rate appreciation and inflationary pressures during booms and severe recessions or outright growth collapses during crises. Liberalization policies may have helped to reduce inflationary pressures but have clearly worsened pro-cyclical responses through capital account and financial liberalization and their general disregard for the developmental objectives of exchange rate management.

Our sixth stylized fact is that *the dynamics of sectoral net borrowing patterns strongly influence possibilities for macroeconomic management, but the dominant patterns are not those usually underscored in orthodox analyses*. Fiscal austerity packages implemented in many countries in the 1980s and the 1990s were supposed to lead to improvement in external balances along IMF financial programming lines. That clearly was *not* the common outcome. More typical were mirrored up and down co-movements of private balances and external borrowing. Financial deregulation and capital account liberalization strengthened this correlation, and were followed by financial crises in many countries, sometimes more than once. They help explain the erratic performances in several regions. Private and government balances sometimes moved in opposite directions, but this correlation has little to do with Ricardian equivalence and more with what the literature on binding external constraints predicts – including its traumatic manifestations in the face of foreign exchange scarcity, which includes inflation taxes and forced savings.

Macroeconomic flexibility, although difficult to define and even harder to attain, is certainly important. According to the analysis of sectoral gaps, the major task of counter-cyclical macroeconomic policies relates to the management of swings in private sector balances in the face of unstable external financing.

Structural conditions also matter here, in several ways. First, the character of developing countries as “risky borrowers” in international financial markets generates pro-cyclical variations in the availability of external finance and in “parity interest rates” (discussed in detail below) that are very hard to manage,, particularly when the capital account is fully liberalized. Also, some forms of trade specialization are more prone to macroeconomic shocks. In this regard, as we have seen, specialization in natural resource-based exports is more cyclically vulnerable than in manufacturing, and that in mid-tech manufactures (some of which have acquired commodity characteristics) is more cyclically prone than specialization in low or high-tech manufactures.

Additionally, *financial development plays a crucial role in both enhancing macroeconomic flexibility but also generates risks of its own*. This can be considered, indeed, as a seventh stylized fact. Financial development does increase the tools available for countries to manage boom-bust cycles. But it also generates the possibility of financial instability, which can have different characteristics, depending on the nature of the financial system. Prudential regulation and the diversity of financial intermediaries are critical to provide stability to the system.

The previous seven lead to an eighth and final stylized fact: *success in the developing world is associated with States as much as markets*. States are responsible in particular for inducing a favorable structural transformation of the economy and for managing positive and negative external shocks. And, in both cases, the “policy space” provided by the international environment and international rule making is crucial. One of the most troublesome features of the more liberalized international and domestic environments that have prevailed in recent decades is that the “policy space” of developing countries has significantly shrunk.

After the failure of liberalization policies in inducing rapid growth in the developing world, a new sort of consensus has been developing in recent years that recognizes more explicitly the role of the State. Some of the elements of this new consensus are welcome, particularly its emphasis on social policy and infrastructure. The adverse effects of “pro-cyclical” macroeconomic policies are also increasingly being recognized. Indeed, the term “counter-cyclical” macroeconomic policies, long absent or mentioned only as a secondary issue in the mainstream literature, has made a strong comeback. But several of the active structural and macroeconomic policies that we emphasize in this book are still disregarded by the mainstream analysis. And the obsession with property rights has made the mainstream institutional literature “one dimensional”, and incapable of understanding the positive links between State intervention and market success that underlies successful development experiences, in the industrial and developing world alike.

## **Policy Alternatives**

Myriad policy recommendations that are derived from our attempt to incorporate these stylized facts into our analytical framework are found throughout the book, particularly in Chapters 6 to 8. In this section we recapitulate and in some cases expand on alternatives which should fit the characteristics of today's developing countries.

The core idea is that the success can be reproduced by other countries around the world if the policy agenda promotes changes in production and trade structures towards higher productivity sectors and utilization of idle resources, while at the same time it advances the development of financial structures and the adoption of counter-cyclical macroeconomic policies to manage both positive and negative external shocks. The “policy space” to adopt development and macroeconomic policies coherent with these objectives is crucial, as is overall policy coherence, particularly the coherence between short term macroeconomic management and developmental goals.

Patterns of transformation will not be necessarily the same everywhere. The level of development and, particularly the degree of diversification of production and trade structures already achieved, the accumulated technological capabilities, the natural resource endowments and the size of the economies are one set of structural factors relevant for choices in the area of production sector policies. The extent of financial development and the degree of integration into global financial markets are another set that will determine macroeconomic policy

alternatives. More generally, the application of our framework must always be context-specific, as it must take into account the specific structural features of a country and the international environment at a point in time. The mainstream search for “one size fits all” solutions that was so typical of Washington consensus policies is simply wrong. To have any chance for success, policy has to be tailored to each country’s conditions and constraints.

### *Macroeconomic Policies*

In the macroeconomic area the two crucial issues that we have underscored are the need to enhance financial development and to design appropriate counter-cyclical macroeconomic policies. There are others which we have not analyzed but are also crucial. Most important among them is the need to have an adequate and progressive tax base to facilitate the adequate provision of social services and social protection as well as infrastructure development.

Financial development implies, first, the development of a sound banking sector and domestic bond markets. In the latter area, central bank and government bonds are commonly the starting point, but the final objective should be the development of deep corporate bond markets that facilitate investment financing. When long-term funds for investment financing are not available, public sector or state-sponsored development banks can play a very important role. They continue to be important when commercial banks and corporate bond markets provide financing with only limited maturity. Development banks and

state intervention in general can also play a role in increasing access to finance by agents that have limited access to financial markets, including small firms and poor households, particularly in the latter case for financing their major asset, housing.

Interestingly, state intervention is quite extensive in many of these areas even under highly sophisticated financial markets (for example, in the United States). The development of bond markets, stock markets, and other advanced forms of financing – such as sound securitized mortgages and sound derivative markets — may require the promotion of specific institutional investors, which operate as “market makers.” Development banks, insurance firms, and pension funds play a role in these areas in many countries; specific state-sponsored agents do the same even in industrial countries (for example, in the case of the US mortgage market).

The possibility of financial instability is present at all stages of financial development. Financial development has a dual effect in this area. On the one hand, a denser institutional network of financial agents can be stabilizing and broaden the room of maneuver for counter-cyclical monetary policy. At the same time, however, new risks are created. They include maturity mismatches between investment requirements and available finance, currency mismatches when external liabilities are used to finance the acquisition of domestic assets (particularly those producing non-tradable goods and services), excess leverage (the multiplication of financial liabilities relative to the capital base on which



financial institutions operate), and even the sheer development of unsound financial instruments.

These risks are present in all financial system as reflected, for instance, in the importance of the latter two in the recent financial crisis in the industrial countries, including collateralized debt obligations based on subprime mortgages and credit default swaps backed by very small capital bases. The first two sorts of risk are particularly important in developing countries, where variable mixes of maturity and currency mismatches are inherent to balance sheet structures.

Financial regulations must therefore become increasingly sophisticated as financial markets develop. Regulatory shortfalls are behind the high frequency of financial crises that have plagued the industrial and developing countries since the 1970s. Avoiding excess leverage and thus guaranteeing an adequate capital base in the financial system, as well as adequate provisions (or reserves) to cover expected losses is the most basic issue. Almost equally important in developing countries is the management of maturity and currency mismatches. The simplest regulatory options are strict provisions or coverage for risk of balance sheets that have such mismatches, or quantitative limitations or even outright prohibitions on foreign currency borrowing by domestic agents that produce non-tradable goods and services. And it should never be forgotten that over the centuries newly invented but unsound financial instruments have sparked many crises.

Finance is inherently pro-cyclical. Risks are accumulated during booms that are only evident at the end, when it is generally found that financial systems

are seriously under-capitalized relative to the risks they have assumed. This recurring outcome lies behind a basic recommendation put forward in Chapter 7: prudential regulations should have a strong counter-cyclical component. One of the major problems behind current regulations is that they are actually pro-cyclical, including pro-cyclical pattern of credit ratings; the broad use of mark-to-market pricing, which fits transparency criteria but tends to transmit assets boom-bust cycles to portfolios; risk evaluation models that, due to their similar design, may actually turn markets more volatile; and, more broadly, the tendency to build excessive leverage and open speculative positions during booms. The simple recommendations are to increase capital and/or provisions for loan losses during booms, and to avoid mark-to-market asset pricing from feeding into leverage – by (for example) imposing limits during booms on the values of assets that can be used as a backing for credit or bond issues.

Pro-cyclical finance also calls forth counter-cyclical macroeconomic policies. The problem here is that the pro-cyclical availability of external financing limits the space available to developing countries to adopt counter-cyclical policies. Fiscal policies can always play a role, for example through progressive income taxes that would operate as an automatic stabilizer by increasing government revenues at a faster pace than overall economic activity during booms or temporary tax hikes during these phase of the business cycle, the design of permanent safety nets to support the vulnerable during crises, fiscal stabilization funds to “store” windfall revenues during upswings, and rules that target “structural” fiscal balances – i.e., a deficit adjusted by pro-cyclical swings in

tax revenues and the costs of safety nets used as automatic stabilizers during crises. In practice, however, the application of these principles is difficult, largely because political pressures lead governments to spend during booms, particularly when they were forced to cut spending during the preceding crisis as part of orthodox stabilization packages. Thus, pro-cyclical fiscal policies are unfortunately a common pattern in the developing world – a trend that must certainly be reversed.

An even more problematic feature is the tendency of parity interest rates (the costs of external financing, including country risk spreads, plus expected depreciation, or minus expected appreciation, of the exchange rate) to fall during booms and increase during crises. If countries follow these trends, monetary policies will be pro-cyclical and exacerbate swings in output. But trying to increase interest rates during booms and reduce them during crisis, going against trends in parity rates, may simply worsen exchange rate instability. Indeed, higher rates during booms increases incentives to bring in more capital, reinforcing appreciation trends. Lower rates in a crisis can generate incentives to take capital out, thus enhancing exchange rate depreciation and the risks of recession or even a long period of foreign exchange scarcity if the economy has failed to diversify during the boom

This sort of interaction is the true dilemma of monetary and exchange rate policies in open economies. Inflation targeting, the ruling paradigm of monetary policy, can provide a framework for counter-cyclical policies when domestic demand is the sole determinant of domestic prices. But its counter-cyclical effect

is unclear when exchange rates are a major determinant of domestic prices and, in any case, by failing to set exchange rate or balance of payments objectives, it may result in excessive exchange rate fluctuations. As a short run solution, exchange rate appreciation during booms will shift any excess demand towards the balance of payments. Although the inflation target may be met, the increase in the current account deficit and associated appreciation will become an element of vulnerability to a sudden stop in external financing. As a long term solution, this choice entirely ignores the developmental dimensions of the exchange rate – i.e., the links between the exchange rate and the diversification of the productive and trade structures.

Both from a short as well as a long-term perspective, macroeconomic policies in developing countries should therefore include an element of “exchange rate targeting” (Frenkel and Taylor, 2007; Frenkel, 2007). The massive interventions in foreign exchange markets in developing countries in recent years means that this is also a “revealed preference” of economic authorities in many if not most countries.

The main contributions of macroeconomic policies to long term growth are moderate and relatively stable long-term real interest rates, and competitive and relatively stable real exchange rates. The first can facilitate investment financing. The second can contribute to structural change in the production and trade structures. The exchange rate becomes more important as the trade regime is liberalized because protection and export subsidies become less readily

available to promote structural change. (This effect of trade liberalization has often been ignored.)

We have argued in this book that it is possible for macroeconomic authorities to set, within limits, *both* interest and exchange rates. In practice this freedom of maneuver may depend on a mix of capital account regulations and (possibly massive) interventions in the foreign exchange market. It is a rewarding exercise, as empirical evidence indicates that exchange rate competitiveness has positive effects on economic growth in developing countries – or, what is a similar result, that a strong current account has positive effects, not only on short term but also on long-term growth.

### *Structural Transformation Policies*

The major task of structural transformation policies is to facilitate a dynamic restructuring of production and trade towards activities with higher technological content. We argued that countries that have industrialized have, in a broad sense, always pursued industrial policies, a statement that applies historically to the United States and Great Britain as well as to Japan and the East Asian Tigers, among others. Industrial interventions have included trade policies (tariff and non-tariff protection, and export subsidies) and tax incentives, but also “pro-trust” policies to help create national champions and the active utilization of military spending with industrialist objectives. The more aggressive East Asian policy in the post-Second World War period is, furthermore,

consistent with Gerschenkron's (1962) insight that active state intervention tends to be more important for late comers and, we could add, for late-late comers.

The Washington consensus hit hard at these instruments and proposed that trade liberalization would be a less distortive and more powerful instrument of development. This proved to be wrong. As we have extensively argued in this book, trade liberalization has *not* been the instrument used by most of the successful developing economies, which have actively promoted the diversification of their production and exports towards sectors with higher technological content.

An appropriate integration into the world economy can, of course, be a powerful instrument of development policy. This concept has indeed always been at the heart of structuralist thinking. After all, according to the views of structuralists, the main objective of industrial policies was always to change the form of insertion of national economies into the global economic system – that is, to redefine the international division of labor, not to return to any form of “autarky” (a concept that is, in any case, irrelevant to understanding modern development). The real question is then what are the instruments that developing countries can use to promote a better insertion into the world economy today.

In this regard, trade instruments are less readily available than in the past, except for low income countries, and intellectual property provisions are more stringent. A major instrument that has *not* been limited by international agreements is development banking. In many successful experiences, state-supported banks have been a major channel for financing new developmental

activities, mixed in several cases with some ingredient of state ownership. Some countries continue to use this mix, most notably China. In today's developing countries, government-backed long-term lending should be mixed with the encouragement of corporate debt markets, an activity that itself can be supported by development banks as "market makers".

Several criteria have been discussed on how to design industrial policies today (see, for example, Ocampo, 2005; Rodrik, 2007, ch. 4; World Bank, 2005, ch. 5). As proposed in Chapter 8, the objective of these policies should always be the promotion of patterns of structural change that lead to the accumulation of technological capabilities. On the basis of the ongoing debate, several criteria can be proposed.

The major one can be formulated in a straightforward way: policies should promote *innovative activities that generate positive domestic spillovers*. The concept of "innovative activities" should be understood in a broad sense, to refer not only to new technologies, but also new markets, new industrial structures, or exploitation of previously underutilized natural resources. In today's export-oriented developing countries, export diversification, in either products or markets, should certainly be a major objective. In all cases, we should emphasize that "innovation" is what is "new" for the country or region where it takes place, regardless of whether this activity is fully developed elsewhere. Domestic spillovers – production linkages and technological externalities – are critical to justify government action, as benefits should go beyond the firm that undertakes the innovation.

Implicit in the emphasis on spillovers is that state intervention should aim at higher “value added”, either in terms of technological content or at least of domestic contents. Indeed, the latter follows from the fact that GDP is nothing else but value added. So, promoting pure assembly manufacturing or tourism with limited domestic contents is not desirable per se, unless that opens the space for further innovations down the line. It is perhaps paradoxical, as Rodrik (2007, ch. 4) has emphasized, that the major forms of “industrial policy” in recent decades have been the promotion of free trade zones and the attraction of direct foreign investment through tax breaks or full tax exemptions – that is, activities that tend to reduce rather than increase domestic linkages and value added.

In turn, the emphasis on “activities” rather than “sectors” raises a series of important questions. One is whether it is possible to separate an activity from the sector where it predominantly occurs. A particularly important case in this regard is whether it is possible to separate the process of promoting *production* from that of building *technological* capacities. The implicit assumption of old forms of industrial policy interventions was that the accumulation of technological capacities was closely tied to –in a sense, a by-product of— the development of particular sectors. Promoting increasingly sophisticated industrial sectors was, therefore, the way to both promote innovation and the accumulation of technological capacities. Technological advancement per se became a passive rather than an active process.

In today’s world the issue of whether to promote activities rather than sectors turns out to be a pragmatic question, of whether it is possible to de-link



the innovative activity from the innovative sector. There is no single answer. But what is clear is that, whether a specific activity or a sector is promoted, and whether the “innovation” does not directly lie in the area of production (e.g., conquering new markets or exploiting new resources), what is essential is that the final goal is the accumulation of technological capabilities.

The emphasis on activities carries another message: as opposed to what was usually accepted in the past, sectors other than manufacturing also offer opportunities for innovation. They include modern services but also primary production, both in niche high value added products (e.g., fresh fruits and vegetables) and also the technological upgrading of other natural resource intensive activities.

This basic criterion applies at each stage of development, though in different ways, and opens possibilities of active policies for all countries. How to increase productivity in basic agricultural activities should be the starting point of any development policy in low-income countries. How to move from primary goods to resource based and low skilled manufactures and services will be the challenge for low and low-middle income countries, while middle income countries increasingly confront the choice of moving to manufactures and services with higher technological content. . For those producing resource based goods or mid-tech manufactures subject to strong cyclical swings, an important element of the strategy must be how to diversify towards less cycliclyvulnerable export sectors, and to accompany structural strategies with strong counter-cyclical macro policies.

Structural transformation involves a public-private partnership of some kind. The need for such a partnership is associated with the information problems that different agents face: better information of the private sector on production processes and specific markets, but better information of the State on the economy as a whole, on international conditions and processes and, of course, its capacity to enforce rules that benefit the whole of the private sector rather than individual agents. The nature of the partnership will vary from country to country, depending on the characteristics of both private agents and the state. In all cases it should be understood as a mutual learning process.

The incentives that are designed may be horizontal (that is, an incentive that applies to a certain activity in all sectors) or selective. A preference for horizontal incentives may be correct in some cases, but they may be inadequate to promote the special activities that generate the strongest spillovers and associated accumulation of technological capabilities. When fiscal resources are involved, how to allocate them is always a selective decision and it is better to adopt it on the basis of an explicit strategy.

Selective strategy is not just or even mainly about “picking winners” – the typical motto used by critics of industrial policies. Any success will involve a learning process, concentrating on what should be promoted and drawing lessons from making wrong choices. Individual firms in a free trade environment confront exactly the same the same problems.

. The worst choice is for the State to assume that the task of designing appropriate structural development strategies is impossible and therefore to take

a passive stance. Its appropriate strategy may be characterized as “discovering” or even “making winners” in close interaction with production sector firms. This emphasis follows from our basic framework of analysis, according to productivity increases are, to a large extent, the result of production experience.

The decision making process was no doubt simpler during the import substitution era, when it was based on what was imported and the size of domestic markets. For some export oriented economies, looking at the export structures of countries with higher incomes may be appropriate. But, as industrializing economies (now South Korea, Taiwan, and in some aspects China) approach the world technological frontier, hands-on administrative guidance of the old style may not work (Woo, 2007). However, even if the bureaucracy cannot foresee “the next big thing” in information or other new technology-oriented sectors, it can certainly help finance research and development, and provide long-term finance to firms and the infrastructure backup in these sectors – as in South Korea’s 90+% broadband internet coverage. None of these policy areas is restricted by international agreements, and these types of policies are actively practiced by states in industrialized countries today.

Incentives should be matched by performance standards – “reciprocal control mechanisms”, to use Amsden’s (2003) terminology. They should be granted on a temporary basis and dynamically adjusted to move forward in the structural transformation process. But any a priori definition of the duration of incentives may turn out to be artificial and could lead to the loss of resources

invested without the policy objectives being met. A much better solution may be designing a learning process that would lead to decisions about whether to dismantle failed policies or extend successful policies until when they bear their full fruits.

Finally, all of this requires investing in institution building. The destruction of institutional capacity to pursue developmental policy area was devastating in most of the developing world under the Washington consensus. But nothing indicates that it cannot be rebuilt. Indeed, mainstream analysis usually carries a contradictory view regarding institution building. It is usually assumed that creating good central banks or tax authorities is within the reach of developing countries, but that promotion of productive sector development is somehow impossible. There is no reason why. Successful countries have shown that it can be done.

### *International Environment*

Although the focus of this book has been on domestic macroeconomic policies and structural development strategies, the international environment is critical, as clearly indicated by the clustering in time of successes and failures across a broad range of countries. So, designing better instruments for global macroeconomic policy management is essential for developing countries, as is their adequate voice and participation in the associated decision making.

Finally, and once again, international rule making should leave enough “policy space” for developing countries to adopt strategies and policies to

manage external shocks and promote their structural transformation. This is an area where there has been a clear regression in recent decades. A more equitable world is certainly not a world based on rules that make development more difficult.